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**UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY**

IN RE GENERAL MILLS, INC. KIX
CEREAL LITIGATION

**Case No. 2:12-cv-00249-KM-
JBC**

Return Date: November 2, 2015

**ORAL ARGUMENT
REQUESTED**

**MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFFS' MOTION
FOR PARTIAL SUMMARY JUDGMENT**

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I. INTRODUCTION

Between 2009 and 2013, Defendant General Mills, Inc. (“General Mills”) prominently claimed on the packaging of its Kix brand cereal (“Kix”) that Kix was “Made with All Natural Corn.” (Plaintiffs’ Statement of Material Facts Not in Dispute (“SOF”) ¶¶ 1-3.) This statement was false. The corn used to make Kix was not “natural” but, rather, was (and is) genetically engineered corn, grown from seeds whose DNA has been deliberately altered through the use of complex modern biotechnology techniques (also referred to as “genetic engineering” or “genetic modification”) to create corn plants that express (*i.e.*, exhibit) certain traits that corn does not naturally possess. The DNA of the corn used to make Kix is genetically engineered to make the corn impervious to certain herbicides and toxic to certain insects.¹

Plaintiffs Christina Bevans, Robin Marcus, Christine Zardeneta, and Daniel Kellogg (collectively “Plaintiffs”) allege that they were deceived by General Mills’ false claim that Kix was “Made with All Natural Corn,” that the claim was a factor in their decisions to purchase Kix, and that they suffered economic injury because the genetically engineered product they received was worth less than the “natural” product that General Mills was

¹ Genetically engineered (“GE”) crops and the products made from them are also commonly referred to as “GMOs,” or “genetically modified organisms.”

purporting to sell. In 2013—approximately seventeen months after this litigation was filed—General Mills removed the disputed claim from Kix packaging. (SOF ¶ 4.)

To prevail on their claims under the relevant New Jersey and California state consumer protection statutes, Plaintiffs must show that the “Made with All Natural Corn” claim on Kix was false and/or misleading, and that they were injured as a result of that claim. In this motion for partial summary judgment, Plaintiffs seek a simple and straightforward ruling that their claims satisfy the falsity prong of the statutory scheme. More specifically, Plaintiffs submit that there is no genuine dispute regarding the falsity of General Mills’ claim that Kix was “Made with All Natural Corn.”

The use of GE crops in food products is controversial for many reasons, including potential problems resulting from antibiotic-resistant genes in GE crops, unanticipated impacts of GE crops on other organisms and the environment, and increased herbicide use stemming from widespread planting of bioengineered herbicide-tolerant crop varieties.² A movement to require the affirmative labeling of products containing GMOs has gained traction in recent years. Three states have passed GE labeling

² (See Expert Declaration of Charles M. Benbrook, Ph.D., dated June 19, 2015 (“Benbrook Decl.”) ¶ 45.)

statutes,³ and legislation is pending in at least sixteen other states.⁴ Neither the pros and cons of biotechnology, nor the desirability of mandatory labeling, however, are at issue in this motion or in this litigation. The sole question before the Court in this motion is whether there is a genuine dispute regarding the falsity of the “Made with All Natural Corn” claim that appeared on Kix made from GE corn.

The corn used to make Kix is genetically engineered through a highly technical, multi-step process. (*See* Benbrook Decl. ¶¶ 47-91.) To genetically engineer corn, scientists must extract specific DNA sequences from multiple organisms of non-corn species (*e.g.*, bacteria and viruses), alter them, splice them together into synthetic constructs called “transgenes,” and move those transgenes into the corn DNA. (*See id.* ¶¶ 47-75.) In some cases, the transgenes are attached to particles of gold or tungsten and a “gene

³ H. 112, Act 120 § 1(5)(C) (Vt. 2014); Me. Rev. Stat. Ann. Tit. 565 §2593(2) (Me. 2014); P.A. 13-183 (Conn. 2013).

⁴ *See* H.B. 92, 29th Leg., 1st Reg. Sess. (Alaska 2015); H.B. 2462, 52nd Leg., 1st Reg. Sess. (Ariz. 2015); S.B. 131, 28th Leg., Reg. Sess. (Haw. 2015); H. File 147, 86th Gen. Assemb. (Iowa 2015); S.B. 734, 99th Gen. Assemb. (Ill 2015); S.B. 60, 119th Gen. Assemb., 1st Reg. Sess. (Ind. 2015); H.B. 3242, 189th Gen. Ct. (Mass. 2015); H. Res. 89 (Mich. 2015); H. File 351, 89th Leg. (Minn. 2015); H.B. 168, 98th Gen. Assemb., 1st Reg. Sess. (Mo. 2015); S. Con. Res. 4020, 64th Legis. Assemb., Reg. Sess. (N.D. 2015); A4205, N.Y. State Assemb. (N.Y. 2015); H.B. 1370, 55th Leg., 1st Sess. (Okla. 2015); H. 5078, Gen. Assemb., Jan. Sess. (R.I. 2015); S.B. 696, Gen. Assemb. (Tenn. 2015); H.B. 3499, 84th Leg. (Tex. 2015).

gun” is used to shoot the particles into corn’s stem cells. (*See id.* ¶¶ 75-88.)

The process is described in detail in the Declaration of Dr. Charles M. Benbrook, submitted herewith. To state the obvious, the key steps in the genetic engineering process have no counterpart in nature. Similarly, the resulting corn plants, which are herbicide-tolerant and insect-resistant due to the presence of the synthetic transgenes, are unlike any naturally occurring corn plants.

Many of the specific types of genetic modifications made to the corn used in Kix, described in detail below, do not and could not occur in nature. On the contrary, those genetic modifications are protected by myriad patents issued by the U.S. Patent and Trademark Office (“PTO”) to biotechnology companies such as the Monsanto Company (“Monsanto”), Syngenta, and DuPont. (*See id.* ¶ 98 n.6.) The Supreme Court, however, has unequivocally held, most recently in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013), that “naturally occurring phenomena” cannot be patented. *Id.* at 2116. Guidance issued by the PTO interpreting the relevant Supreme Court cases further confirms that “naturally occurring products” and “non-naturally occurring products that are not markedly different from naturally occurring products” are not patentable. Based on the Supreme Court’s rulings culminating in *Myriad*, as

confirmed by the PTO's guidance, the comprehensively patented corn used to make Kix cannot be "natural."

Patents covering the genetically engineered corn used to make Kix explicitly state that the products are "artificial" and "synthetic." Some of the patents highlight the artificial or synthetic character of the patented matter by distinguishing it from a "naturally occurring" or "native" substance. Indeed, Monsanto, which developed and patented the genetically engineered traits found in most of the Kix corn, has described genetically engineered seeds as those that have had "their genetic makeup altered to exhibit traits that are not naturally theirs." (SOF ¶ 17.)

Moreover, the states of Vermont, Maine, and Connecticut each have determined that a "natural" claim is inconsistent with genetic modification, and has banned the term from food products derived from GE crops.⁵ No court or federal agency has affirmatively held GE crops to be "natural."

When the description of the genetic engineering made to the Kix corn is considered along with Supreme Court patent jurisprudence, guidance from the PTO, and the language in the relevant patents, there can be no genuine

⁵ H. 112, Act 120 § 1(5)(C) (Vt. 2014); Me. Rev. Stat. Ann. Tit. 565 §2593(2) (Me. 2014) ("A food that is [genetically engineered] may not be described on the label or by similar identification as 'natural.'"); P.A. 13-183 (Conn. 2013) ("Natural food" defined as "food ... which has not been genetically-engineered.").

dispute that General Mills' claim that Kix was "Made with All Natural Corn" was false.

A ruling by the Court that the "Made with All Natural Corn" claim was false would resolve a key legal issue in this matter and significantly reduce the time and expense required to fully resolve this case. Discovery has closed, and the Court can consider this motion on the full record developed by the Parties. Plaintiffs, therefore, respectfully seek an Order, pursuant to Federal Rule of Civil Procedure 56, granting partial summary judgment on the issue of the falsity of General Mills' claim that Kix was "Made with All Natural Corn."

II. FACTUAL BACKGROUND

A. There is No Genuine Dispute That Kix is Made with GE Corn.

Corn is the primary ingredient in Kix. (SOF ¶ 5.) General Mills does not dispute that it makes Kix with GE corn. (*Id.* ¶ 6.)⁶ Responding to

⁶ General Mills was financially motivated to label Kix as "Made with All Natural Corn" while using GE corn to make the cereal. According to General Mills documents, the company knew that consumers were willing to pay more for "natural" foods—specifically, 22% more for cereals labeled as natural—and that the "Made with All Natural Corn" claim on Kix motivated shoppers to buy the product. (Keenan Decl., Ex. 21 (GMI_KIX00012398).) At the same time, General Mills was saving money by using GE corn in Kix: Sarah Geisert testified on the company's behalf that using non-GE corn would have raised manufacturing costs by "probably 15 to 20 percent." (Keenan Decl., Ex. 8 at 49:23-24.)

Plaintiffs' Second Set of Requests for Admission, General Mills admitted, on information and belief, that during the relevant time period, "some of the corn used in Kix cereal was grown from seed produced through bioengineering." (SOF ¶ 6.)

Sarah Geisert, the General Mills employee with global responsibility for regulatory affairs, testified during her Rule 30(b)(6) deposition that General Mills never purchased identity-preserved (non-GE) corn for use in Kix. (Keenan Decl., Ex. 8 at 48:16-49:9.) Carla Vernon, the General Mills Vice President who managed the Kix brand during part of the relevant period, admitted during her deposition that Kix "does contain GMO corn." (Keenan Decl., Ex. 4 at 83:21-23.)⁷

The admissions of General Mills and its employees confirm the obvious. As explained in the Benbrook Declaration, GE corn, first planted in 1996, accounted for 90% of all corn acreage grown in the U.S. by 2013, according to the USDA's National Agricultural Statistics Service.

(Benbrook Decl. ¶ 28; SOF ¶ 8.) Therefore, because General Mills did not purchase identity-preserved, non-GE corn for use in Kix, "it is virtually certain that all boxes of Kix cereal sold between 2009-2013 were

⁷ In addition, a General Mills document entitled "Big G Division Biotech Ingredients" identifies corn as one of the "Biotech Ingredients" in Kix. (Keenan Decl., Ex. 22 (GMI_KIX00005439).)

manufactured at least in part from GE corn.” (Benbrook Decl. ¶ 43.)

Accordingly, there is no genuine dispute that Kix was made with GE corn during the relevant time period.

B. The GE Corn Used to Make Kix is Purposefully Altered By Human Intervention to Express Traits Corn Does Not Naturally Possess.

GE corn exists solely because scientists have created in the lab that which nature never produced in the field. The world’s largest creator of GE seeds, Monsanto, has heralded this as a key differentiator between GE seeds and natural crops, describing the former as having had “their genetic makeup altered to exhibit traits that are not naturally theirs.” (SOF ¶ 17.)

Independent third-party organizations also recognize that GE seeds are defined by their unnatural origins. The World Health Organization describes GE seeds as those which have had their genetic material “altered in a way that does not occur naturally.”⁸ Romer Labs, a company that works with the agricultural industry, explains that scientists genetically modify plants so that the resulting GE crops can “express novel traits that normally would not

⁸ World Health Organization, Frequently asked questions on genetically modified foods (May 2014), http://www.who.int/foodsafety/areas_work/food-technology/Frequently_asked_questions_on_gm_foods.pdf?ua=1.

appear in nature.”⁹ Similarly, Vermont, Maine, and Connecticut have each enacted legislation that would prohibit the use of “natural” claims on GE-foods.¹⁰

1. To Manufacture GE Corn, Foreign DNA is Fabricated Into a “Transgene,” a Synthetic Construct with No Counterpart in Nature.

The process of genetic engineering used to create all GE crops, including the corn used in Kix, is described in detail in the accompanying Declaration of Dr. Charles M. Benbrook. (*See* Benbrook Decl. ¶¶ 47-91.) A brief summary follows.

The process begins with the identification of a functional trait in an organism (the “donor organism”) that might have certain desirable effects if introduced into a specific crop or plant where it does not naturally exist (the “target plant”). (*Id.* ¶¶ 47 & 52-56.) Once the desirable trait is identified, scientists embark on a multi-step process to create a new organism with distinct and measurable differences from any organism that currently exists by extracting and transferring the gene responsible for the desired trait into

⁹ Romer Labs, Genetically Modified Organisms, <http://www.romerlabs.com/us/products/gmo/> (last accessed June 19, 2015).

¹⁰ H. 112, Act 120 § 1(5)(C) (Vt. 2014); Me. Rev. Stat. Ann. Tit. 565 §2593(2) (Me. 2014) (“A food that is [genetically engineered] may not be described on the label or by similar identification as ‘natural.’”); P.A. 13-183 (Conn. 2013) (“Natural food” defined as “food ... which has not been genetically-engineered.”).

the target plant. Before the gene of interest can be extracted, it must be located amid the thousands of genes in the donor organism, often through a process of “genetic mapping.” (*Id.* ¶¶ 53-56.) After the genes of interest are mapped, additional techniques are employed to amplify the genes so they can be isolated and retrieved. (*Id.* ¶ 57.)

The donor organism’s DNA is then broken into hundreds or thousands of segments, a small number of which include the gene of interest. (*Id.* ¶¶ 57-59.) The segments are combined with segments of bacterial DNA called “plasmids,” creating synthetic structures called “vectors.” (*Id.* ¶¶ 59-61.) These laboratory-produced vectors are extremely unlikely to occur in nature. (*Id.* ¶ 61.)

The vectors, after undergoing additional procedures, are reintroduced into bacterial cells, and another sequence of steps helps identify the small number of cells containing the DNA that expresses the desired trait. (*Id.* ¶ 62.) Larger colonies of these cells can then be grown. (*See id.* ¶ 63.) The separate steps described thus far, and “especially the sequence of steps, have no parallel in nature and are both synthetic and artificial.” (*Id.* ¶ 64.) But this is just the first part of the genetic engineering process.

Even after the foreign gene of interest has been identified, extracted, amplified, synthetically combined with bacterial DNA, segregated and

replicated, it cannot simply be inserted into the target plant. (*Id.* ¶ 65.)

Several more steps must be carried out to “regulate” the gene “to assure that the gene turns on at the right time, in the correct part of the plant, and then is expressed strongly enough to confer the desired trait, but not so strongly that other aspects of the plant’s physiology or biochemistry are disrupted.” (*Id.*)

The gene of interest is combined with *other* foreign DNA sequences, such as “promoters” (which turn a gene on) and “terminators” (which turn a gene off)—which themselves are extracted from bacteria, viruses, and other species. (*Id.* ¶¶ 65-71.) In addition, because the genes in foreign DNA are often expressed at lower levels in the target plant than in the donor organism, the foreign gene’s sequence is often altered to increase the gene’s expression. (*Id.* ¶¶ 69-70.) These various foreign DNA sequences are stitched together in a synthetic construct called a “transgene” or “gene cassette.” (*Id.* ¶ 72.) These transgenes “all contain multiple, highly modified bacterial genes, stitched together with a variety of marker genes, promoters, and terminator sequences.” (*Id.* ¶ 73.)

As stated by Dr. Benbrook in his declaration: “*There is no counterpart in nature for these multi-element transgenes, which are synthetic creations resulting from extremely complex genetic recombinations*

of foreign DNA brought about by humans in a laboratory.” (Id. ¶ 74 (emphasis added).)

2. The Insertion of the Transgene Into the Target Plant Could Not Occur in Nature.

Once the transgene containing the foreign DNA and the foreign promoters and terminators is assembled, it needs to be inserted into the target plant. (*Id.* ¶ 75.) This must be accomplished through human intervention because “there is no natural way for foreign DNA from several different organisms, knitted together in a precise way and order within a transgene, to get into a plant’s genome.” (*Id.* ¶ 76.) Two insertion methods have been used.

The first involves use of the bacteria *Agrobacterium tumefaciens*, which contains a plasmid (a strand of bacterial DNA) with the unusual natural ability to inject itself into plant cells. (*Id.* ¶ 79-80.) Genetic engineers alter the plasmid by removing genes that could be harmful to the target plant, then clone the synthetic transgene to the plasmid, allowing the “transgene to, in effect, hitch a ride with the now-benign plasmid into the plant’s cells.” (*Id.* ¶ 81.) “The use of a cloned bacterial plasmid to carry a complex, multi-element transgene constructed in a laboratory into a target plant’s genome could not occur in nature.” (*Id.* ¶ 83.) The second method of transferring the synthetic transgene into the target plant involves coating

particles of tungsten or gold with the transgene and literally shooting the particles into the target plant with a “gene gun.” (*Id.* ¶¶ 84-87.) This method likewise has no counterpart in nature. (*Id.* ¶ 86.)

3. The GE Corn Used to Make Kix is Unlike Any Corn Found in Nature.

The most common types of genetically engineered traits in corn grown in the United States are herbicide tolerance and insect resistance. According to the USDA, approximately 71% of the corn grown in the United States in 2013 included *both* herbicide-tolerant and insect-resistant bioengineered traits. (SOF ¶ 11.) In 2011, the USDA reported that American farmers planted 92.28 million acres of corn. (*Id.* ¶ 12.) For that same year, Monsanto reported that American farmers planted 79 million acres of corn—85.6% of the total crop—that had been genetically engineered with Monsanto traits to tolerate herbicides and resist insects. (*See id.* ¶ 13.) Monsanto’s data similarly establish that 81.6% of the corn acres planted in 2009 exhibited Monsanto-engineered traits. (*See id.* ¶ 15.) Of that, 80.7% exhibited Monsanto’s traits for herbicide tolerance. (*Id.*) Accordingly, there is no doubt that the corn used to make Kix was not just GE corn, but corn that had been genetically engineered to tolerate herbicides and resist insects. (*See also* Benbrook Decl. ¶¶ 9(a)-(c).)

a. Roundup Ready 2 Corn Used in Kix

Herbicide-tolerant GE corn has been genetically engineered to withstand the application of a specific family of herbicides that would otherwise kill or severely damage the plant. (*Id.* ¶ 46(h).) The most common versions of herbicide-tolerant corn are so-called “Roundup Ready” varieties, sold or licensed by Monsanto, that have been engineered to tolerate the application of the herbicide glyphosate, which Monsanto sells under the brand name Roundup. (*Id.* ¶¶ 9(b) & 98.)¹¹ Nearly all GE corn planted in the U.S. since 2008 has included the “Roundup Ready 2” gene (“CP4-EPSPS”). (*Id.* ¶¶ 29 & 141.)¹²

¹¹ As discussed below, Monsanto has commercialized two versions of the Roundup Ready trait. Since 2008, Monsanto has primarily sold GE corn containing the Roundup Ready 2 trait, discussed herein except as otherwise indicated.

¹² Due to the prevalence of Roundup Ready crops, the agricultural use of the herbicide glyphosate has increased significantly from 27.5 million pounds in 1995 (the year before GE crops were introduced) to 250 million pounds in 2014—a 9.1-fold increase. (Benbrook Decl. ¶ 45 n.4.) Concerns about the effects of glyphosate have likewise been increasing. The World Health Organization’s cancer research arm recently declared glyphosate to be a probable human carcinogen. Kathryn Guyton, et al, Int’l Agency for Research on Cancer Monograph Working Group, *Carcinogenicity of Tetrachlorvinphos, Parathion, Malathion, Diazinon, and Glyphosate*, 16 *The Lancet Oncology* 490 (2015), available at: [http://dx.doi.org/10.1016/S1470-2045\(15\)70134-8](http://dx.doi.org/10.1016/S1470-2045(15)70134-8); see also Daniel Cressey, *Widely Used Herbicide Linked to Cancer*, *Scientific American* (March 25, 2015), available at: <http://www.scientificamerican.com/article/widely-used-herbicide-linked-to-cancer/>.

The Roundup Ready 2 gene is a *modified* version of a gene extracted from a bacterium, which causes the corn plant to produce a *modified* version of the enzyme (EPSPS) that makes the bacterium impervious to glyphosate. (*Id.* ¶¶ 134, 142-49.) Monsanto had to alter the bacterial gene because, as it acknowledged in its patent application, “there are no reports on the expression of naturally glyphosate-tolerant EPSPS enzymes in plants to confer glyphosate tolerance.” (Keenan Decl., Ex. 17 at col.2 l.30-32.)¹³ In other words, *the DNA sequence that results in glyphosate resistance in corn plants did not exist in nature*; Monsanto created it and inserted it into corn plants. General Mills made Kix from corn containing the DNA sequence that Monsanto created, and claimed that the product was made with “All Natural Corn.”

In addition to the fabricated CP4-EPSPS gene, the patented transgene used to create Roundup Ready 2 corn includes DNA from the Cauliflower Mosaic Virus, which itself has been genetically engineered to work as a promoter that activates the Roundup Ready 2 corn gene. (Benbrook Decl. ¶¶ 135 & 144.) Foreign DNA from yet another source is included in the

¹³ Glyphosate-Tolerant 5-Enolpyruvylshikimate-3-Phosphate Synthases, U.S. Patent No. RE39,247 (filed July 18, 2003) (issued Aug. 22, 2006).

transgene as a “terminator” to turn off the expression of the trait in the GE corn plant. (*Id.* ¶¶ 135, 143-44.)

b. Bt Corn Used in Kix

Insect-resistant GE corn has been genetically engineered to produce insecticides that are toxic to certain insects. (*Id.* ¶ 46(i).) The most common versions of insect-resistant corn are so-called “YieldGard” varieties, sold or licensed by Monsanto, that have been engineered to produce endotoxins made by the soil bacterium *Bacillus thuringiensis* (“*Bt*”). (*Id.* ¶ 98.) Most GE corn planted in the U.S. between 2009 and 2013 was genetically engineered to produce one or more *Bt* endotoxins. (*Id.* ¶ 29.)

YieldGard corn with *Bt* protection against the Corn Borer (“YieldGard Corn Borer”) contains a *modified* version of a gene extracted from the soil bacterium *Bt* that causes the corn plant to produce a *modified* version of the endotoxin Cry1Ab. (*Id.* ¶¶ 111-117.) The Cry1Ab endotoxin controls insects such as the European corn borer. (*Id.* ¶ 111.) The transgene used to encode the modified Cry1Ab endotoxin includes DNA from the Cauliflower Mosaic Virus, which has been modified to act as a promoter that drives the production of the Cry1Ab endotoxin, as well as foreign DNA from a bacterium that has been modified to terminate the expression of the Cry1Ab endotoxin in the GE corn plant. (*Id.* ¶¶ 112 & n.7.)

To produce YieldGard corn with *Bt* protection against the corn rootworm (“YieldGard Rootworm”), scientists modified the gene that expresses the Cry3Bb endotoxin with “at least one amino acid substitution, one amino acid addition, or one amino acid deletion in the primary sequence of the native or unmodified” gene. (Keenan Decl., Ex. 19 at col.793 1.5-6.)¹⁴ The Cry3Bb endotoxin controls juvenile rootworm beetles and other soil-dwelling insects. (See Benbrook Decl. ¶ 120.) The transgene used to encode the Cry3Bb endotoxin contains promoters from wheat and the Cauliflower Mosaic Virus, as well as foreign DNA from a bacterium that has been modified to terminate the expression of the Cry3Bb endotoxin in the GE corn plant. (*Id.* ¶¶ 120 n.8 & 121.)

Most of the GE corn sold today is genetically engineered to express *both* the Roundup Ready trait and multiple *Bt* traits targeting insects with up to six different *Bt* endotoxins. (*Id.* ¶¶ 27 n.2 & 29.) Scientists have engineered the corn grown in America’s fields to express an average of approximately four genetically engineered traits, each of which has been created by stitching together modified genetic elements from plants, bacteria, and virus, resulting in corn that cannot reasonably be considered “natural.” (See *id.* ¶¶ 27 n.2 & 47-91.)

¹⁴ Polypeptide Compositions Toxic to Coleopteran Insects, U.S. Patent No. 6,063,597 (filed Dec. 18, 1997) (issued May 16, 2000).

4. Patents Protecting the GE Corn Used in Kix Establish that the Corn is Artificial and Synthetic.

Monsanto has published a list of the patents protecting its major genetically engineered corn products. (Keenan Decl., Ex. 14.)¹⁵ Each GE corn product is covered by many separate patents, and each product includes genetically engineered traits that involve the construction and transfer of multi-element transgenes containing foreign DNA. (*See* Benbrook Decl. ¶¶ 98-101.) Many of Monsanto’s corn products now include multiple “stacked” traits, resulting in products covered by fifteen or more patents. (*See id.* ¶¶ 98-101; Keenan Decl., Ex. 14.) However, nearly all GE corn sold between 2009 and 2013 was covered by some combination of patents on the most common traits: herbicide tolerance, such as in Roundup Ready 2 corn, and insect resistance, such as in YieldGard Corn Borer corn and YieldGard Rootworm corn. (Benbrook Decl. ¶ 98.)

a. Original Roundup Ready Corn

Monsanto’s original Roundup Ready (glyphosate resistant) corn was protected by, among others, U.S. Patent No. 6,040,497 (the “’497 Patent”). The ’497 Patent describes transgenic plants that have “a mutant EPSPS gene which confers glyphosate resistance.” (Keenan Decl., Ex. 15 at col. 23 l.44-

¹⁵ Plaintiffs have concurrently submitted a request for the Court to take judicial notice of the patents discussed herein.

45.)¹⁶ In fact, “[t]wo mutations were introduced into the amino acid sequence of EPSPS to confer glyphosate resistance.” (*Id.* at col.24 l.1-2.) A later patent explains that to build the original Roundup Ready gene, scientists created “at least 3 transgene expression cassettes arranged in tandem in the genome” (Keenan Decl., Ex. 16 at col.11 l.65-66.)¹⁷ The ’497 Patent discloses five DNA sequences, each of which Monsanto identified as an “Artificial Sequence.” (Keenan Decl., Ex. 15 at col.53-56.)

b. Roundup Ready 2 Corn

Roundup Ready 2 products are protected by, among others, U.S. Patent No. 6,825,400 (the “’400 Patent”) and U.S. Patent No. RE39,247 (the “’247 Patent”). The ’400 Patent describes “two transgene expression cassettes,” consisting of DNA molecules from different sources “operably connected to” each other. (Keenan Decl., Ex. 16 at col.11 l.20 & 24.) The second transgene, for example, consists of five separate sequences operably connected to one another, including: “[1] a DNA molecule of the cauliflower mosaic virus (CaMV) 35S promoter”, *operably connected to* [2] a DNA molecule consisting of a Zea mays Hsp70 intron, *operably connected to* [3] a DNA molecule encoding an Arabidopsis EPSPS chloroplast transit

¹⁶ Glyphosate Resistant Maize Lines, U.S. Patent No. 6,040,497 (filed Apr. 3, 1997) (issued Mar. 21, 2000).

¹⁷ Corn Plants Comprising Event PV-ZMGT32(nk603), U.S. Patent No. 6,825,400 (filed June 1, 2001) (issued Nov. 30, 2004).

peptide sequence, *operably connected to* [4] a DNA molecule encoding a glyphosate resistant ... synthase (EPSPS) isolated from *Agrobacterium tumefaciens* sp. strain CP4, *operably connected to* [5] a DNA molecule consisting of a nopaline synthase transcriptional terminator.” (*Id.* at col.2 l.35-38 (emphasis added).)

The '400 Patent discloses sixteen DNA sequences, each of which is identified as an “Artificial Sequence.” (*See id.* at col.17-24.) Several of the sequences are described as “fully synthesized.” (*Id.*)

The '247 Patent, which covers the gene that produces the mutated CP4-EPSPS enzyme that results in glyphosate resistance in Roundup Ready 2 plants, uses the word “natural” to distinguish the un-mutated EPSPS enzyme existing in nature from the mutated version produced by the patented gene:

In general, while such natural tolerance [to glyphosate] has been reported [in bacteria], there is no report suggesting the kinetic superiority of the naturally occurring bacterial phosphosate-tolerant EPSPS enzymes over those of mutated EPSPS enzymes nor have any of the genes been characterized. Similarly, there are no reports on the expression of naturally glyphosate-tolerant EPSPS enzymes in plants to confer glyphosate tolerance.

(Keenan Decl., Ex. 17 at col.2 l.25-32.) Twenty-five separate DNA sequences in the '247 Patent are described as “artificial,” “synthetic,” or both. (*See id.* at col.53-156.)

c. YieldGard Corn Borer Corn

Monsanto identifies U.S. Patent No. 6,180,774 (the “’774 Patent”) as one of the patents covering YieldGard Corn Borer corn. The title of the patent is: “*Synthetic DNA sequences having enhanced expression in monocotyledonous plants and method for preparation thereof.*” (Keenan Decl., Ex. 18 (emphasis added).)¹⁸ The patent emphasizes the critical difference between YieldGard Corn Borer corn and natural corn by explaining that the former “provides novel synthetic DNA sequences, encoding a polypeptide or protein that is not native to a monocotyledonous plant, that is expressed at greater levels in the plant than the native DNA sequence if expressed in the plant.” (*Id.* at col.5 1.59-63.)

The word “synthetic” appears in the ’774 Patent twenty-nine times. (*See generally id.*)

d. YieldGard Rootworm Corn

U.S. Patent No. 6,501,009 (the “’009 Patent”) covers Monsanto’s YieldGard Rootworm corn. The ’009 Patent describes “*transgenic plants* which have been *transformed with a DNA construct or expression cassette* of the present invention that is expressed and translated at unexpectedly high

¹⁸ Synthetic DNA sequences having enhanced expression in monocotyledonous plants and method for preparation thereof, U.S. Patent No. 6,180,774 (filed Aug. 5, 1997) (issued Jan. 30, 2001).

levels by the plant which results in surprisingly high levels of ... endotoxin accumulation.” (Keenan Decl., Ex. 20 at col.7 l.52-56 (emphasis added).)¹⁹

Six of the DNA sequences disclosed in the patent are described as “synthetic.” (*See id.* col.45-178.) Several of the sequences are identified as an “Artificial Sequence” containing a *synthetic or non-naturally occurring* amino acid sequence. (*See id.*)

U.S. Patent No. 6,063,597 (the “597 Patent”) also covers YieldGard Rootworm corn. The “Summary of Invention” in that patent describes “novel methods for constructing *synthetic Cry3* proteins, synthetically-modified nucleic acid sequences* encoding such proteins, and compositions arising therefrom.” (Keenan Decl., Ex. 19 at col.7 l.39-42.) The patent further describes “*synthetic Cry3* expression vectors* and various methods of using the improved genes and vectors.” (*Id.* at col.7 l.42-44 (emphasis added).)

Collectively (and individually), the above patents and their descriptions make clear that GE corn is not natural.

¹⁹ Expression of CRY3B Insecticidal Protein in Plants, U.S. Patent No. 6,501,009 (filed Aug. 19, 1999) (issued Dec. 31, 2002).

III. STATUTORY BACKGROUND

Plaintiffs have asserted claims arising under both New Jersey's and California's consumer protection statutes.²⁰ Each of the relevant statutes protects consumers against advertising claims that are false as well as claims that are literally true but misleading. *See Scheuerman v. Nestle Healthcare Nutrition*, No. 10-3684 (FSH) (PS), 2012 U.S. Dist. LEXIS 99397, at *20 (D.N.J. July 16, 2012); *Williams v. Gerber Prods. Co.*, 552 F.3d 934, 938 (9th Cir. 2008). Thus, a finding that General Mills' assertion that Kix was "Made from All Natural Corn" was false will satisfy an essential aspect of Plaintiffs' causes of action under each of the statutes.

To prevail on a claim under New Jersey's Consumer Fraud Act ("CFA"), a plaintiff must establish unlawful conduct in violation of the Act. *Smajlaj v. Campbell Soup Co.*, 782 F. Supp. 2d 84, 97 (D.N.J. 2011). The CFA itself declares as unlawful conduct the use of any "deception, fraud, false pretense, false promise, [or] misrepresentation" in connection with the

²⁰ *See* Complaint, *Bevans v. Gen. Mills, Inc.*, No. 2:12-cv-00249-FSH-PS (D.N.J. Jan. 13, 2012), ECF No. 1 ("Bevans Compl."), Count 2; Class Action Complaint, *Marcus v. Gen. Mills, Inc.*, No. 2:12-cv-02886-FSH-PS (D.N.J. May 2, 2012), ECF No. 1 ("Marcus Compl."), Cause of Action No. 1; Second Amended Complaint, *Zardeneta v. Gen. Mills, Inc.*, No. 2:12-cv-00249-KM-MCA (D.N.J. May 13, 2013), ECF No. 73 ("Zardeneta 2d Am. Compl."), Counts 5-7; Complaint, *Kellogg v. Gen. Mills, Inc.*, No. 4:14-cv-00939-DMR (N.D. Cal. Feb. 28, 2014), ECF No. 1 ("Kellogg Compl."), Cause of Action Nos. 1-6.

sale of merchandise such as Kix. N.J. Stat. Ann. § 56:8-2; *see also Pontrelli v. Monavie, Inc.*, No.: 13-cv-4649-WJM-MF, 2014 U.S. Dist. LEXIS 114718, *15 (D.N.J. Aug. 19, 2014) (“For an affirmative act of deception, Plaintiff must show that Defendants’ statements about its product are false.”).

Similarly, claims arising under both California’s Unfair Competition Law (“UCL”) and False Advertising Law (“FAL”) require a plaintiff to establish the existence of prohibited conduct. *Kasky v. Nike, Inc.*, 45 P.3d 243, 250 (Cal. 2002). The UCL declares as unfair competition the use of “any unlawful, unfair or fraudulent business act or practice and unfair, deceptive, *untrue* or misleading advertising.” Cal. Bus. & Prof. Code § 17200 (emphasis added). The FAL prohibits disseminating in advertising “any statement . . . which is *untrue* or misleading.” *Id.* § 17500 (emphasis added);²¹ *see also Williams v. Gerber Prods. Co.*, 552 F.3d 934, 938 (9th Cir. 2008) (“The California Supreme Court has recognized that these laws prohibit not only advertising which is false, but also advertising which, although true, is either actually misleading or which has a capacity,

²¹ *See also Kasky v. Nike, Inc.*, 45 P.3d 243, 250 (Cal. 2002) (“Any violation of the false advertising law necessarily violates the UCL.”) (citation and quotation marks omitted).

likelihood or tendency to deceive or confuse the public.”) (citation and quotation marks omitted).

IV. LEGAL STANDARDS

Federal Rule of Civil Procedure 56(a) provides that where “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law,” the Court “shall grant summary judgment.” Fed. R. Civ. P. 56(a); *see also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *Daniels v. Sch. Dist. of Phila.*, 776 F.3d 181, 192 (3d Cir. 2015). The “mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact.” *Anderson*, 477 U.S. at 247-48. A fact is material only if it has “the potential to alter the outcome of the case.” *DeShields v. Int’l Resort Props.*, 463 F. App’x 117, 119 (3d Cir. 2012). A dispute about a material fact is genuine only “if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson*, 477 U.S. at 248. Although all inferences are to be drawn in favor of the non-moving party, “once the moving party points to evidence demonstrating no issue of material fact exists, the non-moving party has the duty to set forth specific facts showing that a genuine issue of material fact exists and that a reasonable factfinder could rule in its

favor.” *Azur v. Chase Bank, USA*, 601 F.3d 212, 216 (3d Cir. 2010); *see also Heffernan v. City of Paterson*, 2 F. Supp. 3d 563, 569 (D.N.J. 2014) (McNulty, J.) (“[T]he opposing party must present actual evidence that creates a genuine issue as to a material fact for trial.” (citing Fed. R. Civ. P. 56(c))).

The 2010 amendments to Rule 56(a) permit a party to move for partial summary judgment identifying “the part of each claim . . . on which summary judgment is sought.” Fed. R. Civ. P. 56(a); *see also Averhart v. Commc’n Workers of Am., AFL-CIO*, No. 10-6163, 2015 U.S. Dist. LEXIS 789, at *8 (D.N.J. Jan. 6, 2015) (“The plain language of Federal Rule of Civil Procedure 56(a) allows for motions for partial summary judgment.”). Partial summary may be granted on a limited question, such as the falsity of a statement. *In re BankAtlantic Bancorp, Sec. Litig.*, No. 07-61542-CIV, 2011 U.S. Dist. LEXIS 48057, *109 & n.41 (S.D. Fla. Apr. 25, 2011) (“Plaintiffs argued that no genuine issue of fact existed as to the falsity of the four highlighted statements, and the Court granted summary judgment in their favor on that narrow issue.”); *see also In re Celestica Inc. Sec. Litig.*, No. 07 Civ. 0312 (GBD), 2014 U.S. Dist. LEXIS 116562, *37 n.15 (S.D.N.Y. Aug. 20, 2014). The standards governing a motion for partial summary judgment are the same as those governing a motion for summary

judgment. *Sheet Metal Workers' Int'l Ass'n Local 19 v. Herre Bros.*, 201 F.3d 231, 239 (3d Cir. 1999).

V. ARGUMENT

A. Products of Nature Cannot Be Patented; GE Corn is Patented, and Thus is Not Natural.

It is a bedrock principle of patent law that “phenomena of nature” cannot be patented. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).²² This is because inherent in the right to patent is the right to exclude others from using the patented invention, and since natural products are the “basic tools of scientific and technological work,” *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972), they must be “free to all men and reserved exclusively to none.” *Funk Bros.*, 333 U.S. at 130; *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012) (“[M]onopolization of those tools through the grant of a patent might

²² *See also* 35 U.S.C. § 101 (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . .”); *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980) (“[T]his Court has read the term ‘manufacture’ in § 101 in accordance with its dictionary definition to mean the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery. Similarly, ‘composition of matter’ has been construed consistent with its common usage to include all compositions of two or more substances and all composite articles, whether they be the results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids.”) (citation and quotation marks omitted).

tend to impede innovation more than it would tend to promote it.”). Patent law has accordingly developed a rich jurisprudence designed to determine whether or not a product is natural.

Phenomena of nature include not just the laws of the universe but the fruits of those laws as well. “Thus, a new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

To determine whether a product is a phenomenon of nature, the Supreme Court has explained, the “relevant distinction [i]s not between living and inanimate things, but between products of nature, whether living or not, and *human-made inventions*.” *Id.* at 313 (emphasis added).

For example, in *Chakrabarty*, the Court affirmed a patent grant to a microbiologist who had genetically engineered a bacterium that, unlike any bacterium in nature, could break down the components of crude oil. *See id.* at 305. The genetically engineered bacterium was held to be a “nonnaturally occurring manufacture or composition of matter—a product of human ingenuity,” because it contained “markedly different characteristics from any found in nature” *Id.* at 309-10. Accordingly, the bacterium was “not nature’s handiwork” and was patentable. *Id.* at 310. The *Chakrabarty* Court further explained that cultivated plants could be patented, but only if they

were unique and isolated such that their creation could “not [be] repeated by nature, nor [could] it be reproduced by nature unaided by man.” *Id.* at 313 (quoting S. Rep. No. 315, 71st Cong., 2d Sess., 6 (1930); H. R. Rep. No. 1129, 71st Cong., 2d Sess., 7 (1930)).

Similarly, the Court in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, held that “genes and the information they encode are not patent eligible under §101 simply because they have been isolated from the surrounding genetic material.” 133 S. Ct. at 2120. *Myriad* involved an attempt to patent the location and sequence of the BRCA1 and BRCA2 genes responsible for causing an increased risk of breast and ovarian cancer. The Court found, however, that Myriad “did not create or alter any of the genetic information encoded in the BRCA1 and BRCA2 genes,” nor did it “create or alter the genetic structure of DNA.” *Id.* at 2117. Rather, it merely identified a natural phenomenon. Because the “discovered” genetic sequence was the product of nature, and not man’s handiwork, it was not patentable. *See also id.* at 2119 (holding that strands of cDNA *were* patent-eligible where lab technicians removed non-coding regions of the genetic code, creating something “distinct from the DNA from which it was derived,” and rendering it patent-eligible as something other than a product of nature).

The analysis in these cases makes clear that products of nature and products that occur in nature are not patentable.²³ In contrast, products that involve a creation or alteration of the genetic structure or its encoded information by means of human intervention, *i.e.*, “aided by man,” are patentable. Based on this simple distinction, there can be no question that a product that is patentable—*e.g.*, genetically engineered corn—is not natural. Simply put, the GE corn used to make Kix cannot be natural and, at the same time, be “nonnaturally occurring,” as it must be to qualify for patent protection. As such, General Mills’ claim that the patented GE corn used to make Kix was “natural” was *false*.

Guidance issued by the PTO to clarify *Myriad*’s application further confirms that GE corn is not natural. (*See* Keenan Decl., Ex. 23.)²⁴ Applying the Supreme Court’s rulings culminating in *Myriad*, the PTO set forth a multi-step analysis to determine whether a product is “natural,” and thus ineligible for patent protection. First, the PTO asks whether the product

²³ To the extent General Mills attempts to rely on the out-of-circuit case *Ries v. Arizona Beverages USA LLC*, No. 10-01139 RS, 2013 U.S. Dist. LEXIS 46013 (N.D. Cal. Mar. 28, 2013), Plaintiffs note that the decision, which predates *Myriad*, addressed only the patents covering a *process* used to make a product, rather than, as here, patents covering the *product* itself.

²⁴ Letter from Andrew H. Hirshfeld, Deputy Commissioner for Patent Examination Policy, to Patent Examining Corps (Mar. 4, 2014) (enclosing Guidance for Determining Subject Matter Eligibility of Claims Reciting or Involving Laws of Nature, Natural Phenomena & Natural Products).

is of the type of subject matter that is eligible for patent protection, *e.g.*, a manufacture or a composition of matter. (*Id.* at 1.) Assuming that it is, the PTO next considers whether the product involves a judicial exception, such as the prohibition on patenting products of nature. (*Id.* at 2.) If the product does involve a judicial exception, the PTO asks whether the product is *significantly different* than the product of nature. (*Id.* (emphasis added).) “If there is any doubt as to whether the claim recites a judicial exception (*e.g.*, the claim recites something similar to a natural product) . . . then the analysis must proceed to Question 3, in order to determine whether the [product] is claimed in a manner that is significantly different than [the] naturally occurring [product].” (*Id.*)

Construing the Supreme Court’s rulings, the PTO has made clear that a creation is not significantly different from a product of nature unless it either adds something of significance or is markedly different from the product of nature. (*Id.* at 3-4.) The PTO confirms that “naturally occurring products” and “non-naturally occurring products that are not markedly different from naturally occurring products” are “excluded from [patent] eligibility.” (Keenan Decl., Ex. 24 at 25.)²⁵ Thus, for a patent application

²⁵ U.S. Patent & Trademark Office, Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101 (Mar. 19, 2014), *available at* http://www.uspto.gov/patents/law/exam/myriad-mayo_slides_20140319.pdf.

implicating a potentially “natural” product to survive, it “must be both non-naturally occurring and markedly different from naturally occurring products.” (*Id.* at 26.) To determine whether a product is markedly different, “a characteristic must be changed as compared to nature, and cannot be an inherent or innate characteristic of the naturally occurring counterpart.” (*See id.*) The PTO guidance thus further establishes that the GE corn used to make Kix exhibited characteristics that were “changed as compared to nature,” and were not characteristics of “naturally occurring” corn.

Plaintiffs submit that the Supreme Court rulings and the PTO guidance interpreting those rulings doom General Mills’ claim that GE corn is “natural.” These authorities compel a finding that a product cannot be “natural” if it is patentable. Because the GE corn used to make Kix is patented, it cannot be “natural.” As such, General Mills’ assertion that Kix was “Made with All Natural Corn” is *false*.

B. The Patents Protecting GE Corn Establish That It is Artificial and Synthetic and, Therefore, Not Natural

1. Artificial and Synthetic Substances Are, By Definition, Not Natural

As detailed above, the key patents protecting the genetically engineered corn used to make Kix explicitly describe that GE corn as “artificial” and “synthetic.”²⁶

Webster’s Third New International Dictionary defines “artificial” to mean:

[C]ontrived through human art or effort and not by natural causes detached from human agency ... relating to human direction or effect in contrast to nature ... [F]ormed or established by man’s efforts, not by nature ... [P]roduced or effected by man’s skill to imitate nature.

WEBSTER’S THIRD NEW INT’L DICTIONARY 124 (2002) (“WEBSTER’S”).²⁷

Webster’s similarly defines “synthetic” to mean “relating to or involving synthesis... of, relating to, or being a group *deliberately produced by combining genes in a manner unlikely to occur in nature.*” *Id.* at 2321 (emphasis added);²⁸ *see also Wright Asphalt Prods. Co., LLC v. Pelican Ref. Co., LLC*, No. H-09-1145, 2011 U.S. Dist. LEXIS 22309, at *51-52 (S.D.

²⁶ *See supra* Section II.B.4.

²⁷ Courts may use standard dictionary definitions to construe terms used in patents. *See, e.g., Andover Healthcare, Inc. v. 3M Co.*, No. 13-843-LPS, 2015 U.S. Dist. LEXIS 61196, at *10 (D. Del. May 11, 2015) (adopting dictionary definitions of “synthetic”).

²⁸ “Synthesis” is defined in relevant part as a “composition or combination of parts or elements so as to form a whole.” WEBSTER’S at 2321.

Tex. Mar. 7, 2011) (noting that the use of “‘synthetic’ and ‘natural’ in opposition . . . mirrors the relevant dictionary definition of synthetic”).²⁹

The PTO requires applicants attempting to patent a DNA sequence to follow strict guidelines disclosing and classifying the sequence.³⁰ In particular, each DNA sequence must be assigned a separate sequence identifier disclosing the type of organism associated with the sequence. 37 C.F.R. §§ 1.821(c) & 1.823. Applicants are directed to define the “Organism” in the following format: “Scientific name, i.e. Genus/species, Unknown or Artificial Sequence.” 37 C.F.R. § 1.823. Applicants who declare their organism to be unknown or artificial must provide additional information, such as “a description of points of biological significance in the sequence.” *Id.*

²⁹ To the extent the FDA has addressed the use of the word “natural” on food labels, “‘natural’ means ‘that nothing artificial or synthetic . . . has been included in, or has been added to, a food that would not normally be expected to be in the food.’” 58 FR 2302, 2407 (1993); *see also Bohac v. Gen. Mills, Inc.*, No. 12-cv-05280-WHO, 2013 U.S. Dist. LEXIS 147530, at *9 (N.D. Cal. Oct. 10, 2013).

³⁰ *See* 37 C.F.R. § 1.821(b) (“Patent applications which contain disclosures of nucleotide and/or amino acid sequences... shall, with regard to the manner in which the nucleotide and/or amino acid sequences are presented and described, conform exclusively to the requirements of §§ 1.821 through 1.825.”).

2. Roundup Ready Corn is Artificial and Synthetic.

Monsanto has repeatedly acknowledged that the Roundup Ready traits that make corn tolerate the herbicide glyphosate are artificial and synthetic. The original Roundup Ready trait is protected in part by the '497 Patent, which discloses five DNA sequences, each of which is identified as an "Artificial Sequence." (Keenan Decl., Ex. 15 at col.53-56.) Monsanto further identifies each of the DNA sequences as a "Synthetic Primer." (*Id.*)

Monsanto's Roundup Ready 2 trait is protected in part by the '400 Patent and the '247 Patent. The '400 Patent discloses sixteen DNA sequences, each of which—like the '497 Patent—is identified as an "Artificial Sequence." (Keenan Decl., Ex. 16 col.17-24.) The '400 Patent further provides that each of the DNA sequences is "fully synthesized." (*Id.*) The '247 Patent discloses seventy DNA sequences, many of which are described as "Artificial Sequences" and "synthetic." (Keenan Decl., Ex. 17 at col.53-156.)

The key patents protecting Monsanto's Roundup Ready traits confirm that this genetically engineered corn is both artificial and synthetic. As discussed above, the vast majority of the corn planted throughout America's fields has been genetically engineered to express these Roundup Ready

traits. There can thus be no genuine dispute that it is *false* to describe the corn made from these artificial and synthetic seeds as “natural.”

3. ***Bt* Corn is Synthetic.**

Monsanto has similarly acknowledged that corn that is genetically engineered to resist insects by expressing *Bt* endotoxins is synthetic. Monsanto’s YieldGard Corn Borer corn is protected in part by the ’774 Patent, which is titled: “*Synthetic DNA* sequences having enhanced expression in monocotyledonous plants and method for preparation thereof.” (Keenan Decl., Ex. 18 (emphasis added).) The ’774 Patent emphasizes the critical difference between YieldGard Corn Borer corn and natural corn, namely that YieldGard Corn Borer corn is made up of “novel *synthetic* DNA sequences” that are “not native” to the target plant, and which are “expressed at greater levels in the plant than the native DNA sequence if expressed in the plant.” (*Id.* at col.5 l.59-63 (emphasis added).) Monsanto describes the technology used to create YieldGard Corn Borer corn as “synthetic” twenty-nine times in the ’774 Patent. (*See generally id.*)

The ’597 Patent protecting Monsanto’s YieldGard Rootworm corn similarly discloses “novel methods for constructing *synthetic* Cry3* proteins, *synthetically*-modified nucleic acid sequences encoding such proteins, and compositions arising therefrom.” (Keenan Decl., Ex. 19 at col.7 l.39-42.)

Monsanto describes the technology as “novel *synthetic* plant genes which encode non-plant proteins.” (*Id.* at col.63 l.31-32 (emphasis added).)

Monsanto explains that these “*synthetic* plant genes ... express their protein product at levels significantly higher than the wild-type genes which were commonly employed in plant transformation heretofore.” (*Id.* at col.63 l.26-28 (emphasis added).)

In sum, there is no doubt that corn that has been genetically engineered to express a *Bt* endotoxin is synthetic. As discussed above, GE corn that expresses *Bt* endotoxins is commonly found throughout America’s fields. There can thus be no genuine dispute as to the *falsity* of General Mills’ claim that Kix was “Made with All Natural Corn.”

VI. CONCLUSION

Under *Diamond v. Chakrabarty*, the GMOs present in the corn used to make Kix, and the corn plants containing those GMOs, are eligible for patent protection only if they are “*nonnaturally occurring* manufacture or composition of matter—a product of human ingenuity.” 447 U.S. at 309 (emphasis added). The Roundup Ready and *Bt* corn used to make Kix is protected by myriad patents, which themselves describe the resulting product as artificial, synthetic, and non-natural. Thus, there can be no genuine dispute about the falsity of General Mills’ claim that Kix was

“Made with All Natural Corn.” This conclusion is further bolstered by the PTO guidance regarding the patenting of natural products.

A ruling on the falsity of General Mills’ “All Natural Corn” claim will significantly reduce the scope of the contested issues in this litigation and concomitantly reduce the burdens on the parties and the Court in bringing this matter to conclusion. Therefore, Plaintiffs respectfully request that the Court grant Plaintiffs’ Motion for Partial Summary Judgment on the issue of the falsity of General Mills’ claim that Kix was “Made with All Natural Corn.”

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